



ASRF Australian Street Rod Federation TAC

ADVICE SHEET 4-19 78/7/2019

Update re - Ductile Cast Iron Spindles/Stub axles and Perch Bolts

In May 2019 we wrote a safety alert re aftermarket early Ford Spindles and Perch Bolts that had been manufactured in Spheroidal Graphite Cast Iron. We had heard of breakages of these overseas and recommended that anyone using these should immediately remove and replace them.

The ASRF TAC Committee have now examined an SG cast iron spindle which just lately failed on a Street Rod in the Sydney area.

Luckily the vehicle was being parked when the spindle broke. The wheel fell over and was restrained by the disc brake /caliper with some consequent damage to the brake parts. Had the car been at highway speeds there would have been every chance of a locked-up wheel and a spin off the road into a tree or oncoming traffic.



As the photos show the spindle (being made from a brittle material) initially showed fatigue cracking at the top and bottom which progressed through until the remaining section broke away. The vehicle has apparently been on the road for some years. This is totally typical of what happens with this type of casting, there being no warning by way of any bending, just the cracks silently growing larger with continued use until total sudden separation occurs.

Whilst there is no visual way for a layman be sure if you have an inferior SG iron part or a quality Forged Steel item there are a couple of tests that, whilst leaving small evidence marks, wont make the spindle unsafe should it prove to be steel.

The first is to drill a small 3 or 4 mm hole in a non-stressed section such as the outer flange or top boss of the kingpin near the grease nipple. Steel swarf will come off in a spiral. Cast iron will come off in crumbled small pieces. You only need to drill a few mm deep to see what you have. If testing a Perch bolt you could drill in the end where the thread is.

Another test is to take a sander or grinder to the part, again near the top of a spindle or the end of the perch. Steel gives off a white spark in a straight line, cast iron gives off a more orange spark which curves downwards. If not sure maybe practice on some scrap steel and cast iron to get an idea of what to expect.

Therefore the ASRF TAC again advises that ALL SG Cast Iron Spindles and Perch Bolts are unacceptable for Australian Street Rod use. If you have purchased these from any source we recommend you do not use them, or if fitted do not drive the vehicle until they are replaced with items known to be of a ductile material such as Forged Steel or Stainless Steel. Please note that Australian made 28-48 Ford beam axle Spindles and of course Genuine Ford parts are not in question. At this time Superbell and Speedway parts are suspect but other resellers may have sourced from the same factory under different names so trust no one, particularly the guys who try to cut their losses at a swap meet.

Please pass this around your friends and club members, you might save someone's life by doing so.

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